#InvestEUresearch

Horizon 2020
Work Programme
for Research & Innovation
2018-2020

Horizon H2020 – Open to the world and opportunities for participation

Horizon 2020 Info Days

Name: George Bonas, Liane Lewerentz
Function: Service Facility for International Cooperation of DG RTD

26-27 November 2017
Tehran , Iran

Research and
Innovation

European Commission

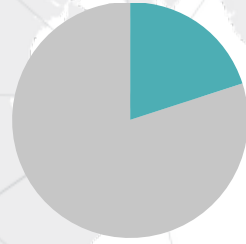# Overview

European Commission

1. Horizon 2020 – Open to the World
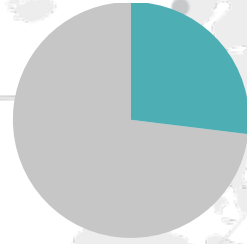
Did you know? The European Union:
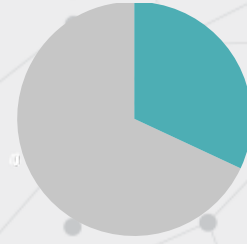# 500 million people – 28 countries - one single market
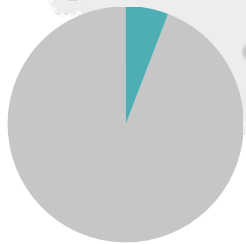
6% of the world's population

20% of world expenditure on research

27% of world scientific publications

32% of high-impact publications
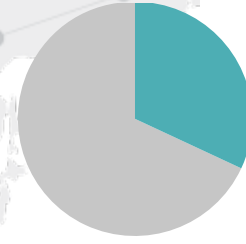
32% of patent applications

Some of the best universities in the world

Some of the most innovative companies in the world

European Commission

What is Horizon 2020?

- Your access to European research and innovation

Horizon 2020 is open to the world!

- The EU Framework Programme for **Research & Innovation**

- The **biggest multinational** programme of its kind with a budget of almost € 80 billion

- Horizon 2020 welcomes **researchers & institutions**, public or private, **from all over the world**

European Commission

4 facts on Horizon 2020 country participation

152 countries in total participate in H2020

107 of these are third countries

Current collaborative research projects in total[1]:
7.392 with
21,69 billion € disbursed EU-funding

Current collaborative research projects with third country participation:
507 with
2,86 billion € EU-funding of which
147,75 million € for third countries

140 countries participate in H2020 collaborative research projects of which **96** are third countries

1 Marie-Sklodowska-Curie, ERC and SME-Instrument as individual research opportunities are exempt

European Commission

European Union Member States and Countries Associated to Horizon 2020

EU Member States (28)

Associated Countries (16)
Albania
Armenia
Bosnia & Herzegovina
Faroe Islands
Georgia
Iceland
Israel
Macedonia (FYR)
Republic of Moldova
Montenegro
Norway
Serbia
Tunisia
Turkey
Ukraine
Switzerland

European Commission

Horizon 2020 covers three priority areas:

1 Excellent science

Researcher driven:
The foundation of tomorrow's technologies, jobs and wellbeing

Industry driven:
Strategic investments in key technologies

Industrial leadership **2**

3 Societal challenges

Society driven:
Tackling the great challenges of our time of citizens and society

European Commission

2. Opportunities for researchers and entities from Iran in Horizon 2020

Horizon2020

Funding for individual researchers

European Research Council (ERC)

Starting Grant
2-7 years after PhD| €1.5 mio

Consolidator Grant
7-12 years after PhD | €2 mio

Advanced Grant
researchers with significant achievements
€2.5 mio

Synergy Grant
2-4 excellent researchers, max. 6 years |
€10 mio

Marie Skłodowska-Curie (MSCA)

Individual Fellowships (IF)
For research in Europe for 12-24 months

Innovative Training Networks (ITN)

Research and Innovation Staff Exchange (RISE)

ETN, European Training Networks

EID, European Industrial Doctorates

EJD, European Joint Doctorates

Funding for collaborative research

Excellent science

Marie Skłodowska Curie

Future Emerging Technologies (FET)

Research Infrastructures

Industrial Leadership

In Leadership in enabling and industrial technologies (LEIT)

Key Enabling Technologies (KETs), ICT and Space

- Nanotechnologies
- Advanced materials
- Advanced manufacturing and processing
- Biotechnology

Societal challenges

Health, demographic change and wellbeing

Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bio-economy

Secure, clean and efficient **energy**

Smart, green and integrated **transport**

Climate action, environment, resource efficiency and raw materials

Europe in a **changing world**: Inclusive, innovative and reflective societies

Secure societies

How can you participate in Horizon 2020?

There are two ways to participate:

- **There is funding for individual researchers**

  Researchers of all nationalities are welcome to participate

- **There is funding for collaborative research**

  Together with at least 3 entities from 3 different countries of the EU or from Countries Associated to Horizon 2020

European Commission

Funding for individual researchers in Horizon 2020!

1. Where in Horizon 2020 can you find funds for individual research?

- **The European Research Council (ERC)**

  =excellent research

- **Marie Skłodowska-Curie Actions (MSCA)**

  = mobility of researchers

Excellent Science

**These opportunities are for researchers who want to work in Europe.**

a) What does the European Research Council (ERC) offer?

- For **excellent researchers** wishing to conduct their groundbreaking research in **Europe**

- No thematic priorities → bottom-up approach

- Investigator-driven

- **ERC Principles:**
  - 1 Principal Investigator and team
  - 1 Host institution in the EU/country associated to Horizon 2020
  - 1 Selection criterion: EXCELLENCE
  - At least 50% research has to be done in Europe
  - Project duration: Up to 5 years

More than 500 grants to non-EU/AC Principal Investigators
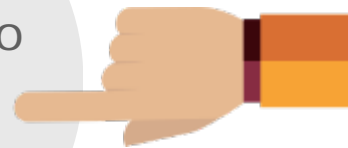
a) Four ERC main funding lines

Starting Grant:

Early career top researchers, 2-7 years after PhD| €1.5 mio.

Consolidator Grant:

Top researchers, 7-12 years researchers after PhD | €2 mio.

Advanced Grant:

Senior researchers with significant research achievements €2.5 mio.

Synergy Grant:

2-4 excellent researchers and their teams, researchers with complementary skills, knowledge and resources, project duration max. 6 years | €10 mio.

Indicative summary of main ERC calls from the 2018 budget

	Starting Grant	Consolidator Grant	Advanced Grant	Synergy Grant	Proof of Concept Grant
Call identifier	ERC-2018-StG	ERC-2018-CoG	ERC-2018-AdG	ERC-2018-SyG	ERC-2018-PoC
Call Opens	03/08/2017	24/10/2017	17/05/2018	03/08/2017	06/09/2017
Deadline or cut-off dates for PoC	17/10/2017	15/02/2018	30/08/2018	14/11/2017	16/01/2018 18/04/2018 11/09/2018
Budget million EUR (estimated number of grants)	581 (391)	550 (287)	450 (194)	250 (30)	20 (130)
Planned dates to inform applicants (after each step or cut-off date)	14/05/2018 14/08/2018	06/07/2018 30/11/2018	29/01/2019 08/04/2019	23/04/2018 29/08/2018 19/10/2018	30/03/2018 21/07/2018 10/12/2018
Indicative date for signature of grant agreements (by cut-off date for PoC)	14/12/2018	30/03/2019	08/08/2019	19/02/2019	30/07/2018 21/10/2018 10/04/2019

Excellent Science

Source: ERCEA

European Commission

b) What do Marie **Skłodowska**-Curie actions (MSCA) offer?

- Opportunities for training and career development
- **Mobility of researchers is mandatory**

Excellent Science

MSCA principles:

- Open to all career stages and nationalities
- Bottom-up approach
- International, intersectoral and interdisciplinary career and knowledge-exchange

b) Three MSCA main funding lines

Individual Fellowships (IF):

- Supporting experienced international researchers to do research in Europe for 12-24 months

- Host institutions: from academia or industry

Innovative Training Networks (ITN):

- Networks of organisations offering research and training to early-stage researchers

Research and Innovation Staff Exchange (RISE):

- International and inter-sectoral cooperation

IF: Individual Fellowships (European Fellowship)

- As an experienced researcher of any nationality you can apply with your individual research project to be conducted at a European organisation

- An individual fellowship provides tailored training for your career in research

- You will receive a work contract including social security for 12-24 months

ITN: Innovative Training Networks

- As an early-stage researcher you can participate in existing joint research training or doctoral programmes of international networks in Europe

- As a network of organisations you can apply for funding within the following funding schemes:

ETN	EID	EJD
European Training Networks	European Industrial Doctorates	European Joint Doctorates
Participants implement a joint research programme	Doctoral programme with the non-academic sector	Doctoral programme to deliver joint degrees

RISE: Research and Innovation Staff Exchange

- As a university, research centre or company you can conduct short term staff exchanges within a joint research project.

- Staff (research, management or technical) of **any nationality** can participate.

- Sharing of knowledge and ideas from research to market through trans-boarder and inter-sectoral collaboration with Europe.

RISE: Research and Innovation Staff Exchange

Conditions:

- At least 3 entities from 3 different countries out of which 2 should come from the EU

- Staff should be engaged in or linked to research and innovation activities for at least one month prior to the secondment

- Duration: Up to 4 years

- Costs covered: Secondment of staff members for one month to one year

MSCA Openings and deadlines under WP 2018-2020

Funding scheme	Publication	Budget	Deadline
ITN 18	12. Oct.17	442 Mio. €	17. Jan. 18
ITN 19	13. Sept. 18	470 Mio. €	15. Jan. 19
RISE 18	22. Nov. 17	80 Mio. €	21. March 18
RISE 19	04. Dec. 18	80 Mio. €	2. April 19
IF 18	12. April 18	273 Mio. €	12. Sept. 18
IF 19	11. April 19	295,62 Mio. €	11. Sept. 19

Funding for collaborative research in Horizon 2020!

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How to participate in a collaborative project?

- As an entity from Iran you can take part in collaborative projects of Horizon 2020

- **You can receive funding**

- You can even coordinate a project

- Remember! All proposals must meet certain minimum conditions:
  - 3 participants from different EU member states or associated countries
  - You as an international partner must come in addition to this minimum

Excellent Science

Societal Challenges

Industrial Leadership

European Commission

International participation is targeted in numerous topics

- Specific topics in calls for proposals may:

  - indicate that **participation of international partners is encouraged**

  - indicate that **participation of partners from a certain country or region is encouraged or even mandatory**

- Coordinated calls exist, used for specific actions e.g. call SC1-BHC-05-2018 International flagship collaboration with Canada for human data storage

Targeted Opening

European Commission

Specific topics targeting cooperation with Iran

Nanotechnologies

Catalytic transformation of hydrocarbons

Europe in a changing world

Drivers and contexts of violent extremism in the broader MENA region and the Balkans

Targeted Opening

European Commission

Where to find collaborative calls?

1 Excellent science

- **Marie Skłodowska Curie Actions**
- **FET open**
- **Research Infrastructures**

In Leadership in enabling and industrial technologies (LEIT)

Industrial leadership **2**

3 Societal challenges

In all seven societal challenges

European Commission

Future Emerging Technologies (FET)

- Collaborative research for **radically new lines of technology**

Excellent Science

- Supports frontier research: alternative ideas, concepts or paradigms of risky or non-conventional nature (similar to ERC)

- 3 main pillars:

Open, Proactive,

Flagships

Top down approach

Bottom-up approach

European Commission

FET Open Topics under WP 2018-2020

2018 Topics presentation:

- Challenging Current Thinking (to lay the foundations for radically new future technologies of any kind from visionary interdisciplinary collaborations that dissolve the traditional boundaries between sciences and disciplines, including the social sciences and humanities)

- Innovation Launchpad (turning results from FET-funded projects into genuine societal or economic innovations)

- Coordination and Support Actions

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FET Proactive Topics under WP 2018-2020

2018 Topics presentation

- Emerging paradigms and communities (To explore and consolidate a new technological direction in order to put it firmly on the map as a viable paradigm for future technology)
- Community building in Neuromorphic Computing Technology

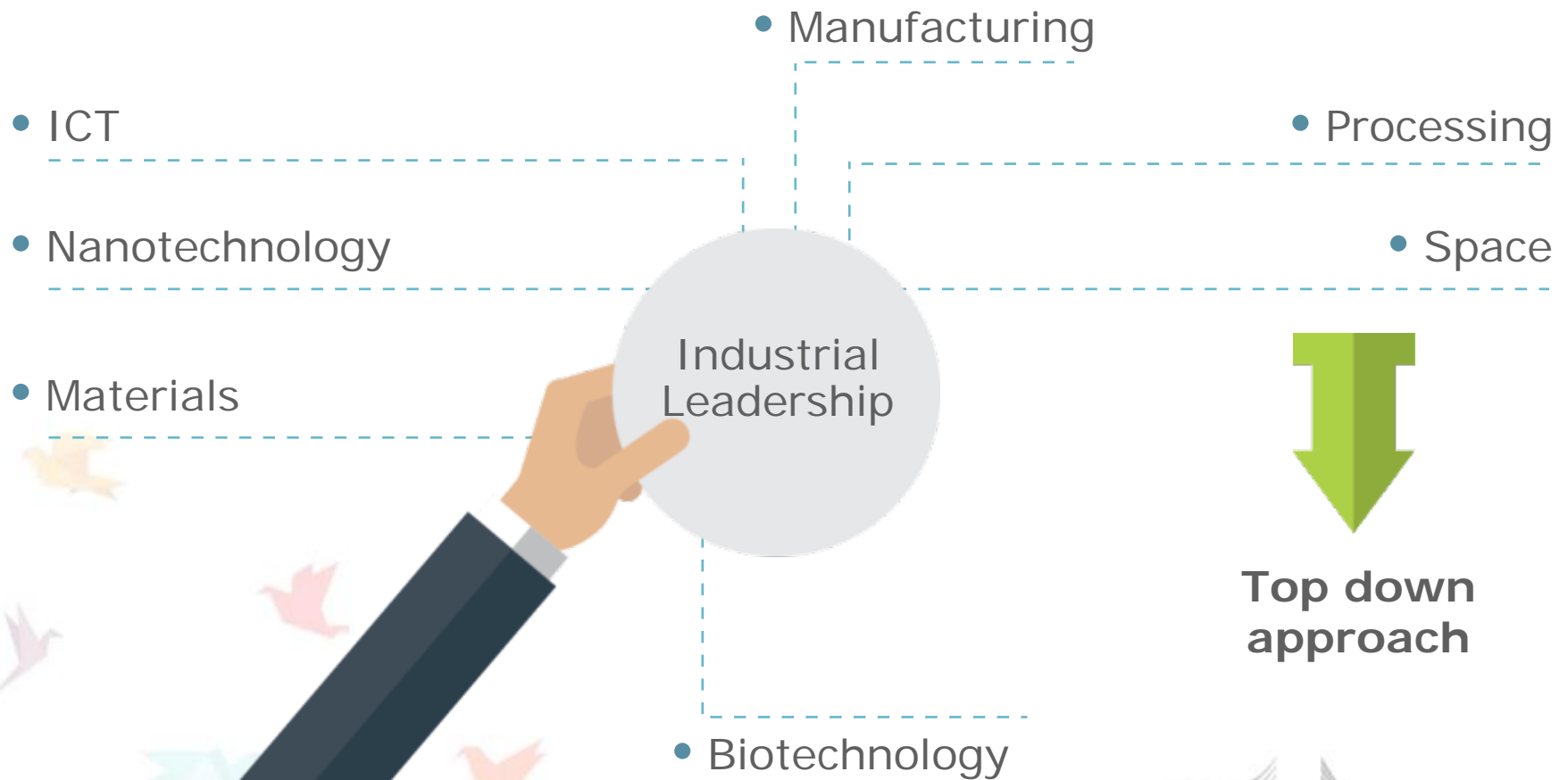# FET Openings and deadlines under WP 2018-2020

Funding scheme	Publication	Budget	Deadline
FETOPEN1	07. Nov.17	647,5 Mio. €	*
FETOPEN2	07. Nov.17	2 Mio. €	11. April 18
FETOPEN3	07. Nov.17	8,2 Mio. €	**
FETPROACT1	31. Okt. 17	88 Mio. €	22. March 18
FETPROACT2	31. Okt. 17	0,5 Mio. €	22. March 18
FETPROACT3	05. June 18	6 Mio. €	18. Dec. 18
FETHPC1	01. Feb. 18	4 Mio. €	15. May 18
FETHPC2	07. May 19	64 Mio. €	24. Sept. 19
FETFLAG1	31. Okt. 17	6 Mio. €	***
FETFLAG2	31. Okt. 17	10 Mio. €	17. April 18
FETFLAG3	31. Okt. 17	130 Mio. €	20 Jan. 18

* 16. May 18, 24. Jan. 19, 18. Sep. 19 and 13. May 20
** 16. Okt. 18, 08. Okt. 19 and 14. Okt. 20
*** 20. Feb. 18 first stage and 18. Sept. 18 second stage

Leadership in enabling and industrial technologies (LEIT)

- Manufacturing
- ICT
- Processing
- Nanotechnology
- Space
- Materials

Industrial Leadership

Top down approach

- Biotechnology

European Commission

Leadership in enabling and industrial technologies (LEIT)

The emphasis for Leadership in Enabling and Industrial Technologies (LEIT) actions will be on:

Research and innovation to strengthen Europe's industrial capacities and business perspectives, including SMEs

- Public-private partnerships (PPPs)

- Cross-cutting Key Enabling Technologies (KETs)

- Seizing ICT opportunities

- Contributing to solving Societal Challenges and to Focus Areas

- Cross-cutting aspects, like international cooperation and responsible research and innovation.

European Commission

Leadership in enabling and industrial technologies (LEIT)

Key Enabling Technologies (KETs), ICT and Space are areas of key industrial competences determining Europe's global competitiveness.

KETs cover different areas: Nanotechnologies, Advanced materials, Advanced manufacturing and processing as well as Biotechnology

ICT-LEIT has six main activities: A new generation of components and systems, Advanced Computing, Future Internet, Content technologies and information management, Robotics, Micro- and nano-electronic technologies, Photonics

The motto for EU Space R&D for 2014 to 2020 is 'Prepare for the increasing role of space in the future and reap the benefits of space now'.

European Commission

Societal Challenges

- **Health**, demographic change and wellbeing

- **Food** security, sustainable agriculture and forestry, marine and maritime and inland water research and the bio-economy

- Secure, clean and efficient **energy**

- Smart, green and integrated **transport**

- **Climate** action, environment, resource efficiency and raw materials

- Europe in a changing world: Inclusive, innovative and reflective **societies**

- **Secure societies** – Protecting freedom and security of Europe and its citizens

Societal Challenges

Top down approach

European Commission

Societal Challenge 1 : Health, demographic change and wellbeing

Budget: € 7,472 billion

Main objectives:

- Improve our understanding of the causes and mechanisms underlying health

- Improve our ability to monitor health and to prevent, detect, treat and manage disease

- Support older persons to remain active and healthy

- Test and demonstrate new models and tools for health and care delivery

European Commission

Societal Challenge 2 : Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bio economy

Budget: € 3,851 billion

Main objectives:

- Population growth requires a change in approach to production, consumption , processing, storage and recycling of waste

- Environmental contamination responses

- Agriculture, forestry and industrial sectors of food and bio-based products play an important role in rural development and management of the natural heritage

Societal Challenge 3 : Secure, clean and efficient energy

Budget: € 5,931 billion

Main objectives:

- Energy is the driving force of the modern economy - maintaining our standard of living requires huge amounts of energy

- As the second largest economy in the world, Europe depends too much on the rest of the world in terms of energy

- The EU has set ambitious climate and energy targets to be achieved

European Commission

Societal Challenge 4 : Smart, green and integrated transport

Budget: € 6,339 billion

Main objectives:

- Transportation will boost employment, economic development, welfare and global trade

- Growing connections between individuals and communities

- Reduction of societies based on oil stocks

- Reduction of traffic congestion and air pollution, road safety - influence on health and quality of life

- Creating a sustainable transport system adaptable to a modern, competitive Europe

Societal Challenge 5 : Climate action, environment resource efficiency and raw materials

Budget: € 3,081 billion

Main objectives:

- Securing access to raw materials and clean water

- Protection of biodiversity and ecosystems

- Investing in innovative solutions to support a "green" economy that is in harmony with the natural environment

- Tackling climate change as a multidisciplinary priority (35% of the total budget of the program)

- Management of water and waste

European Commission

Societal Challenge 6 : Europe in a changing world - Inclusive innovative and reflective societies

Budget: € 1,309 billion

Main objectives:

- Reduction of poverty - 80 million people with lack of access to education and work

- Funding of new strategies and governance structures in order to overcome the prevailing economic instability

- Supporting new forms of innovation such as open innovation, innovation of business models, public sector innovation and social innovation to meet social needs

- Supporting research and innovation in European heritage, identity, history and culture and the role of Europe throughout the world

European Commission

Societal Challenge 7 : Secure societies Protecting freedom and security of Europe and its citizens

Budget: € 1,695 billion

Main objectives:

- Maintaining public security through
  - combating crime and terrorism
  - protect communities from natural disasters
  - tackling illegal trafficking of people, drugs and counterfeit goods
- Development of new technologies for the protection of citizens
- Respect for privacy and compliance with fundamental rights

Science with and for Society (SwafS)

Budget: € 462 million

- Integrates Horizon 2020 cross-cutting issues

- Emphasizes on Responsible Research and Innovation (RRI) including gender, and enhancing the attractiveness of the research profession

Main objectives:

- Ensure responsible science and enable the development of policies more relevant to citizens

- Improve science-literacy, citizens' responsibility and access to scientific careers

- Further enhance active participation and focus on science, research and innovation

European Commission

Eligibility for Funding – General Rules

Automatically funded:

- Member States
- Associated Countries
- **Countries listed in Annex 1 of the Work Programme**

Iran

Other Partner Countries are funded when:

- Agreement exists between 2 funding bodies
- Provision made in the call text
- Commission deems participation essential

European Commission

Horizon 2020 funding rates and evaluation

- Basic funding rates:

  - 100% for Research and Innovation

  - 70% for Innovation/close-to-market

- Indirect costs: 25% flat-rate

- Three evaluation criteria:

  - Excellence

  - Impact

  - Implementation

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3. Proposal preparation and submission

Where to find opportunities to participate?

The Participant Portal

How does it work?

OPEN COMPETITION + PEER REVIEW
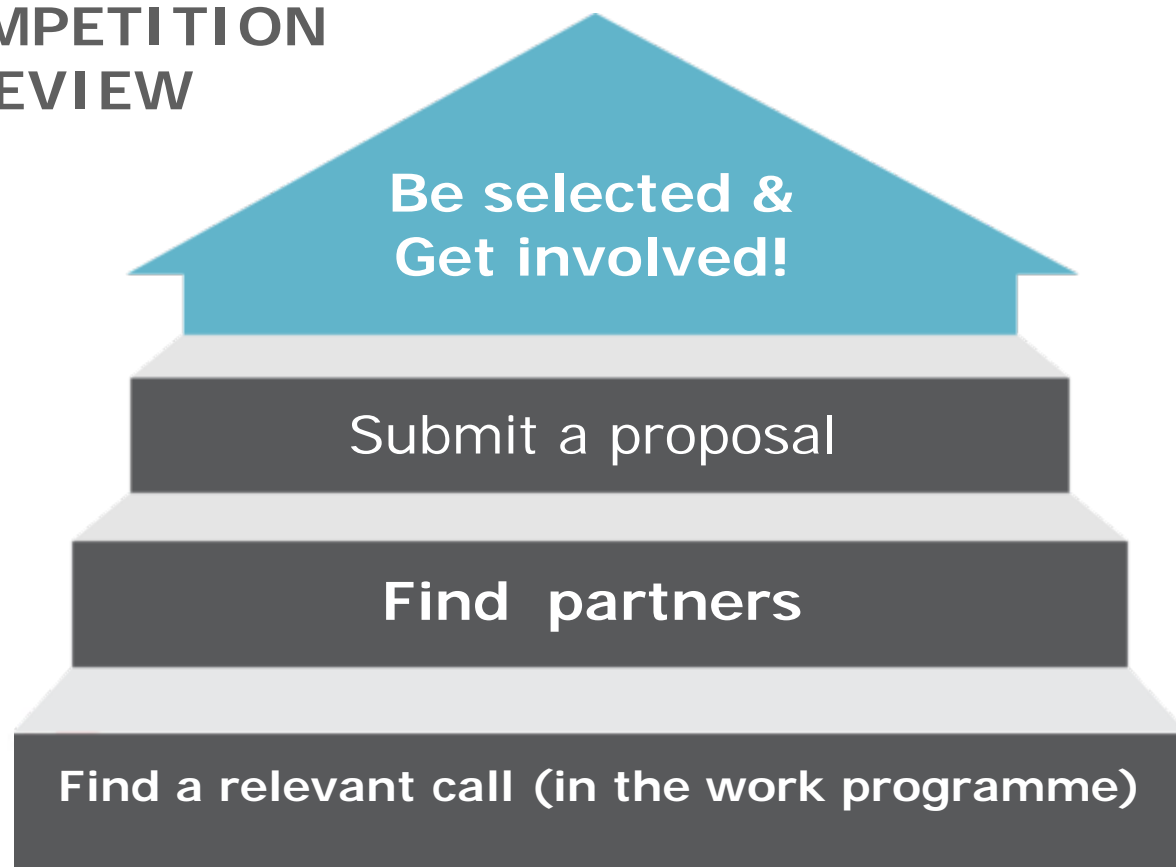
Be selected & Get involved!

Submit a proposal

Find partners

Find a relevant call (in the work programme)

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12 facts you need to know about Horizon 2020 proposal preparation I

1 Funding opportunities published in the Participant Portal

2 Proposal submission in response to „calls for proposals" only

3 Typically calls open annually

4 Calls open at different times

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12 facts you need to know about Horizon 2020 proposal preparation II

6

Calls are open for at least 3 months

5

Calls describe in detail what is expected from the applicants

Call template defines structure for proposal

8

7

Proposals consist of an administrative and descriptive part

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12 facts you need to know about Horizon 2020 proposal preparation III

Proposal structure is oriented towards evaluation criteria

10

One-stage or two-stage proposal submission

Online proposal submission only

12

Time to grant max.8 months

9

11

European Commission

4. Project examples for Iranian participation

Examples for Iranian participation (running projects)

- Title: 'Middle East Research and Innovation Dialogue — MERID'

- Started 1/1/2015, will end 31/12/2017 (36 months);

- Coordinator: Euro-Mediterranean University (EMUNI), Slovenia

- Partners Middle-East+: EG, JO, LB, Pal, Iran, Iraq

- Partners EU: BE, DE, ES, GR, IT, UK

- Budget: 999,750 Euros (56,875 Euros for Iran)

- Main activities:

  - Desk research (e.g. report on Science, Technology and Innovation systems);

  - Policy dialogue (e.g. Conferences and workshops);

  - Promotion of H2020 (Information days, trainings, brokerage events);

  - Dissemination and communication (web portal, printed material).

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Facts and figures about Iranian Participation

- Iranian applicants are involved **46 times in 36 eligible proposals** to collaborative actions of Horizon 2020,

  - of which **7 were mainlisted, leading to a success rate of 19.6%** (as compared to 14.7% overall).

  - Iranian entities **have 5 participations in 5 signed grants,** receiving 3.5 million euros from EU while 418.8 thousand euros is the contribution to Iranian beneficiaries.

- Regarding the Marie Sklodowska-Curie Actions (MSCA), Iranian entities are participating **3 times in MSCA actions** (3 in the RISE programme)

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Iranian researcher participation in ERC

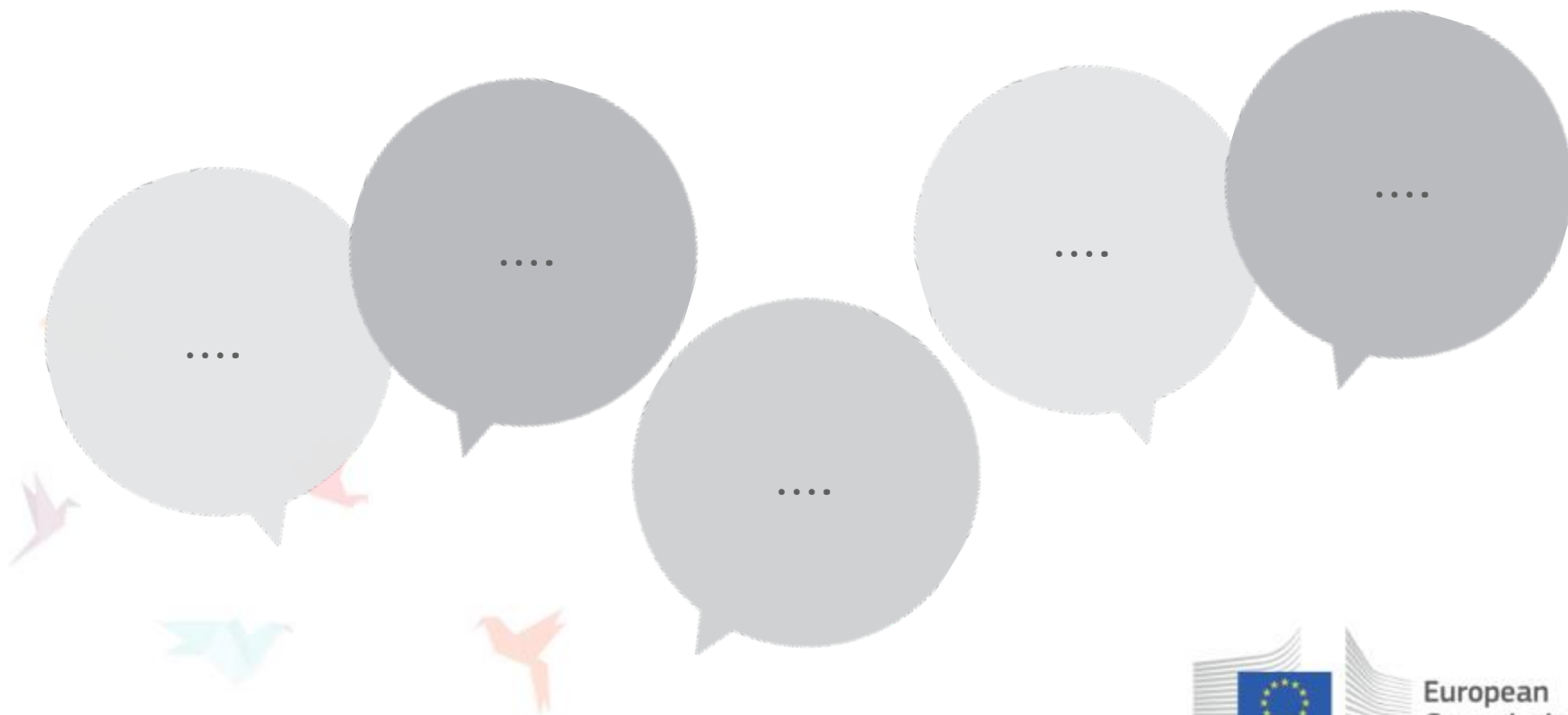- Currently there is **one** principal investigator of Iranian nationality holding an ERC grant.

More than 500 grants to non-EU/AC Principal Investigators

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6. Closure - final Q&A

Please create a top 5 list!

- What are the benefits of participating in Horizon 2020 for you?
- Name 5 arguments!

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Key message for Iranian researchers and entities

- Horizon 2020 is the largest research and innovation programme in the world.

- International cooperation is encouraged in Horizon 2020.

- Iranian nationals or institutions are eligible to take part in Horizon 2020 and receive funding, as individual researchers or in collaborative projects.

- Participation in Horizon 2020 projects offers exciting opportunities to extend your research field, your network and your career options.

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Key message for Iranian researchers and entities

- There are two main ways for participation:

  Individual applications: Mainly in ERC and MSCA (mobility).

- Participation is possible in consortia implementing a joint research project: Mainly in Industrial Leadership (Nano, Materials, Processes, Biotech; ICT; Space) and in the 7 Societal Challenges.

- Always reply to a Call for proposals with specific topics (most of the cases) or open (e.g. ERC)!

National Contact Points in Horizon 2020

- Established, operated and financed by EU Member States, associated countries and third countries

- Nominated by national ministries to the European Commission

- For all specific areas of Horizon 2020

- **NCPs give personalised support on**

  - application process

  - grant preparation and project management

- Organisation of workshops and information events

- Contact details of Iranian NCPs on the Participant Portal (http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html)

Iranian National Contact Points for Horizon 2020

- There are currently **19** official Iranian National Contact Points for Horizon 2020

Prof. Mahmoud Nili Ahmadabadi - IRAN (Islamic Republic of)
Marie Skłodowska-Curie actions on skills, training and career development
Organisation name: University of Teheran
Address: 5th Floor, Central Administration Building, 16 Azar Street, Enghlab Avenue, 14174b, Tehran, IRAN (Islamic Republic of)
Tel: 009821 66469807 - Fax: 009821 66498873
Send Mail - Website: **www.ut.ac.ir**

Update date: 11-JUL-16 - **Record Control Number:** 5000068

Dr. Vahid Ahmadi - IRAN (Islamic Republic of)
Future and Emerging Technologies
Organisation name: Ministry of Science, Research and Technology
Address: South Pirouzan Ave., Hormozan St., Khordin St., Sanat sq., Shahrak-e Q, 1466664891, Tehran, IRAN (Islamic Republic of)
Tel: 009821 82233500 - Fax: 009821 82233510
Send Mail - Website: **http://www.msrt.ir**

Update date: 06-JAN-16 - **Record Control Number:** 30115236

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- http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html#c ,contact=country/sbg/Iran%20(Islamic%20Republic%20of)/0/1/0&function_details..function_abbr/sb g//0/1/0&+person.last_name/desc

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Useful links

- Horizon 2020: http://ec.europa.eu/programme

- Participant Portal: http://ec.europa.eu/research/participants/portal/desktop/en/home.html

- Marie Sklodowska-Curie Actions: http://ec.europa.eu/research/mariecurieactions/

- European Research Council: http://erc.europa.eu/

- EURAXESS: www.euraxess.org

Thank you!

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www.ec.europa.eu/research
Participant Portal www

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